

CONTENT STANDARD 8: Production Systems

Students will understand and be able to demonstrate the methods involved in turning raw materials into usable products.

K-1	2-3	4-5	6	7	8
8.K-1.1 Use technological system. 8.K-1.2 Safely use a variety of simple tools to produce a product.	8.2-3.1 Define product system. 8.2-3.2 Identify the parts of a production system and their functions. 8.2-3.3 Describe the input, process, output, and feedback (IPOF) system model in a production system. 8.2-3.4 Safely use a variety of tools and machines to produce a product.	8.4-5.1 Apply and demonstrate an IPOF system in a production process. 8.4-5.2 Design, construct and test models of shelters and other structures. 8.4-5.3 Safely use tools and machines to produce a product using a simple production sequence or system.	8.6.1 Define basic manufacturing terminology. 8.6.2 Explore pre-production and post-production processes. 8.6.3 Describe how products are manufactured using the craftsman method versus the mass-produced method. 8.6.4 Explore the sources of raw materials and their preparation for production processes. 8.6.5 Design, construct and test models of shelters and other structures.	8.7.1 Define manufacturing terminology including interchange ability, automation, standardization, etc. 8.7.2 Describe how products are manufactured using the methods of single craftsman, line and mass, and automated-robotics manufacturing. 8.7.3 Use prepared materials in the fabrication of a product. 8.7.4 Identify the characteristics of sub- and super- structures. 8.7.5 Produce a product using simple production sequence: layout, shaping, smoothing, assembly, and finishing techniques.	8.8.1 Apply the method of line production in the “manufacture” of a simple product. 8.8.2 Compare systems designed for “on location” production to those produced off-site. 8.8.3 Analyze a design, through testing of model shelters and/or other structures and altering the design for improved performance.
9-10			11-12		
8.9-10.1 Differentiate between manufacturing and construction systems. 8.9-10.2 Demonstrate safe and accurate use of tools and materials to create a finished product. 8.9-10.3 Complete a cost estimation. 8.9-10.4 Trace the historical evolution of manufacturing. 8.9-10.5 Trace the historical evolution of the construction industry. 8.9-10.6 Identify and evaluate alternative materials.			8.11-12.1 Demonstrate the safe and accurate use of tools and production systems to create a finished product. 8.11-12.2 Discuss the advanced production systems and the role they play in future societies. 8.11-12.3 Apply a variety of manufacturing techniques and processes to create a usable product.		